

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions and listing of claims in the application. The listing of claims presents each claim with its respective status shown in parentheses. Only those claims being amended herein show their changes in highlighted form, i.e., insertions appear as underlined text (insertion) while deletions appear as strikethrough text (~~deletion~~). All previously amended claims appear as clean text.

Please amend Claims 1, 4, 9-11 and 13-18 as follows:

1. (Amended) A method ~~[,adaptable]~~ for performing presbyopic correction in which a portion of the ~~[corneal]~~ sclera tissue is removed by steps of:
 - (a) selecting a laser having a predetermined wavelength;
 - (b) selecting a beam spot controller mechanism to reduce and focus a beam produced by said laser to a fiber delivery unit;
 - (c) controlling ~~[the]~~ said fiber delivery unit to deliver said laser beam in a ~~[said]~~ predetermined pattern onto a plurality of positions on the sclera surface to remove a portion of the sclera tissue outside the limbus area by ablating the sclera to a depth of 400-700 microns, whereby a presbyopic patient's vision is corrected to see near by increasing the accommodation of the eye.
61. 2. (Previously presented) A method of Claim 1, wherein said laser is an ultraviolet laser having a wavelength range of about (0.15 - 0.36) microns and a pulse duration less than about 200 nanoseconds.
3. (Previously presented) A method of Claim 1, wherein said laser is an infrared laser having a wavelength range of about (1.4 - 3.2) microns.
4. (Amended) A method of Claim 3, wherein said infrared laser is an optically pumped Erbium:YAG laser having a wavelength of about 2.9 microns.
5. (Previously presented) A method of Claim 1, wherein said laser is an ArF excimer laser having a wavelength of 193 nm.
6. (Previously presented) A method of Claim 1, wherein said laser is a XeCl excimer laser having a wavelength of 308 nm.
7. (Previously presented) A method of Claim 1, wherein said laser is a solid state diode laser having a wavelength range of about (0.95 - 2.1) microns with a power higher than 2 watts and focused to a spot size less than 0.5 mm on the sclera surface.

8. (Previously presented) A method of Claim 1, in which said beam spot controller consists of at least one focusing spherical lens to couple the said laser beam to the said fiber delivery unit.

9. (Amended) A method of Claim 1, wherein said fiber delivery unit consists of an optical fiber having a length of about (0.5 - 1.5) meters and core diameter of about (0.2 - 0.8) mm and a hand piece connected to a fiber tip.

10. (Amended) A method of Claim 9, wherein said fiber delivery unit is substantially transparent to the wavelength of ~~the~~ said laser beam.

11. (Amended) A method of Claim 9, wherein said fiber tip is made of a similar material as that of the fiber and is made ~~in one of the following shapes~~ to focus the said laser beam onto ~~the~~ a treated sclera area of the eye, the fiber tip having a shape chosen from the list ^{group} consisting of: conical, spherical, 90-degree reflecting angle and flat end.

61 Cont. 12. (Previously presented) A method of Claim 9, wherein said fiber tip focuses the said laser beam onto the treated area of the eye at a spot size of about (0.1 - 0.5) mm in diameter.

13. (Amended) A method of Claim 9, wherein said fiber tip is made in a cylinder shape to focus ~~the~~ said laser beam onto the treated area of the eye at a line shape having a dimension of about (0.1 - 0.4) in width and (0.5 - 4.0) mm in length.

14. (Amended) A method of Claim 9, wherein said fiber tip is operated in a contact-mode ~~to ablate the sclera tissue to a depth of about (300 - 800) microns~~.

15. (Amended) A method of Claim 9, wherein said fiber tip is operated in a non-contact mode ~~to ablate the sclera tissue to a depth of about (300 - 800) microns~~.

16. (Amended) A method of Claim 1, wherein said fiber delivery unit is controlled by the surgeon to deliver the laser beam in said ~~perform a~~ predetermined pattern[s] outside the limbus by manually moving the fiber tip in the radial direction of the eye.

17. (Amended) A method of Claim 1, wherein said fiber delivery unit is attached to a scanning device to perform said predetermined pattern[s] outside the limbus and scan said laser beam along the radial direction of the eye.

18. (Amended) A method of Claim 1, wherein said predetermined pattern[s] outside the limbus is defined by the area between two circles having radius of about 5.0 mm and 9.0 mm, respectively.

Appl. No. : 09/706,382
Filed : November 6, 2000

19. (Previously presented) A method of Claim 1, wherein said predetermined pattern includes at least 3 radial lines around the area outside the limbus.

20. (Previously presented) A method of Claim 1, wherein said predetermined pattern includes at least one ring formed by 3 circular spots having a diameter of about (0.2 - 0.5) mm around the area outside the limbus.

21. (Previously canceled)

22. (Previously canceled)

23. (Previously presented) A method of Claim 1, wherein said sclera tissue is removed by said laser after the conjunctiva layer is open.

24. (Previously presented) A method of Claim 1, wherein said sclera tissue is removed by said laser without opening the conjunctiva layer.
